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ABSTRACT

The paper focuses on how aspects of the physical and social environment can be analyzed and arranged within a training classroom to teach children with learning and behavior problems a variety of skills, and to promote generalization of these skills from the training classroom to an integrated classroom. The preliminary step in the teaching process should include identification and analysis of future environments in which the behavior to be trained should occur. This can be accomplished through such procedures as classroom observation and interviews with school personnel. The second step is the assessment of newly trained behaviors. For instance, the teacher should evaluate controlling social dimensions, such as the frequency of teacher instruction and praise required to maintain the behavior, and the physical factors, such as the number of distractions that can be present in a setting and yet not interfere with behavior. The final step consists of training a child to perform a set of skills under a variety of conditions. The training would be dictated by the results of the first and second steps. (Author/PHR)

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Education of the Handicapped

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This paper was presented at the Council for Exceptional Children symposium entitled "Practical Procedures for Teaching Young Handicapped Children" in Kansas City, Mo., May 4, 1978.

The term ecology is used most popularly in reference to the natural environment and the interrelationship of living organisms with the earth. The term also may be used to describe the interrelationships between students and their classroom environments. These relationships also are complex and involve a physical and social component. The physical milieu of the classroom includes such factors as room arrangement, activities, materials, and schedules. The social milieu encompasses such variables as teaching style and contingencies, student participation patterns, and student composition. The arrangement of these variables obviously influences the behavior of the students in many ways. For instance, the number of students enrolled in a classroom may influence the number of opportunities a child has to respond on an individual basis to the teacher; duration and arrangement of activities within a daily schedule may affect a child's attention span and performance. This paper will consider how aspects of the physical and social environment can be analyzed and arranged within a training classroom to teach children with learning and behavior problems a variety of skills, and to promote generalization of these skills from the training classroom to a subsequent, integrated classroom.

Because the goal of a training classroom is two-fold -- remediation and subsequent integration into regular classrooms -- training should emphasize not only the acquisition of new skills but eventual transfer of skills to other settings. Too often teachers discover that a child's learning or performance is so situation-specific that subsequent changes in the social or physical setting interfere with the child's maintenance of a previously learned behavior. Thus, a preliminary step in teaching should include identification and analysis of future environments in which the behavior-to-be-trained should occur. Be delineating the terminal

conditions under which the behavior must be performed, the teacher can plan systematically the many steps required to train, maintain, and generalize the behavior. Because the terminal conditions typically are represented by the integrated classroom, the training classroom teacher must be familiar with the ecology, (or social and physical dimensions) of the classroom for which the child is targeted. The future classroom's schedules, activities, child participation patterns, teacher leadership patterns, etc. should represent the terminal or criterion conditions for the training classroom.

A second step involves actual assessment of the newly trained behaviors under a variety of conditions. Such evaluations are used to determine the systematically environmental conditions that are necessary to support the behavior. For instance, the teacher should evaluate controlling social dimensions, such as the frequency of teacher instruction and praise required to maintain the behavior, and physical factors, such as the number of distractions that can be present in a setting, and yet not interfere with behavior production. Thus, a teacher who successfully has taught a child numeral-object correspondence in a small-group preacademic setting may wish to evaluate the child's maintenance of number-object correspondence during large-group time by requesting the child to count the classmates present in the group. The conditions obviously vary in terms of distractions (shifting bodies versus stable objects), responses requirements (performing in front of a large group versus a small group) and perhaps, teacher input. A response considered learned, or easily performed, in one setting may in fact not be performed in other diverse settings.

The third step, consists of teaching the child to perform a set of skills under various conditions. The training program would be dictated by the results of the first and second steps; that is, by the analysis of

the future classroom environments and by the evaluation of skill maintenance across varying conditions in the present environment.

I will be discussing these first two steps in detail.

Step 1. Analyzing future environments: There are several procedures for assessing social and physical dimensions of a classroom setting. Observation of the classroom is the most direct method. The following information on physical and social dimensions of the classroom should be collected during an observation:

Note the sequence and duration of activities in the daily schedule. For example, how many minutes do children spend:

-in large groups (singing, sharing, listening to stories)?

-in small groups?

-in transition between activity periods, for example, lining up, waiting to be called from one group to another, cleaning up?

-in academic and fine motor activities?

-in free choice activities?

-in recess and large motor activities?

Record the variety of activities available at one time, the number of children typically participating in an activity, and the presence or absence of a supervising teacher.

Note the room arrangement and furnishings. Are the work areas separate from the play areas? Do children work at desks or tables for academics, sit on the floor or chairs for group activities?

Determine the variety of task formats. For instance, some workbooks require a child to match correct responses by drawing a line between them, other workbooks require a child to circle, X, or underline correct responses. The child must know the expected format response as well as the academic skill being assessed.

Social dimensions which should be noted include teacher instruction

patterns, classroom contingencies and child participation patterns. Questions regarding teacher instruction patterns might include the following:

-how many group and individual instructions does a teacher typically provide in an activity?

-how frequently does the teacher attend to or praise work completion, correct responses, or on-task behavior?

In addition, one might ask, with what tasks and with what frequency do teachers instruct:

-in groups?

-on a one-to-one basis?

-through peer or cross-age tutoring?

-with workbooks?

-or on the chalkboard?

-through tape-recordings?

In terms of child participation patterns, the situations and tasks in which a child is required to make a written response, a verbal response, a group response, or a serial response should be assessed.

This same information can be gathered in the training classroom and direct comparisons can be made between the present and future settings. This data will suggest to the teacher the direction in which certain training programs should be aimed, and the criterion behavioral skills a child may need to function successfully in subsequent environments.

Besides direct observation, some of this information can be acquired through interviews with school personnel, or written surveys. We recommend the direct observation method of gathering information, however, because more information typically is gained by seeing the classroom in action. Descriptions of the classroom often are not as concise or accurate; surveys have a habit of not being completed and/or returned.

Step 2: Assessment of newly trained behaviors: If the training classrooms' goal is eventual integration of the child then, skills taught in the training classroom should be assessed under conditions which resemble those present in the integrated classroom. Information from the environmental analysis will help the teacher arrange classroom conditions to approximate those in the integrated classroom. Assessment under a variety of conditions is critical since the training situation may not resemble typical classroom situations.

Therefore, conditions in the classroom should be arranged to vary minimally to maximally from the original training situation. The conditions of the first assessment should resemble those in which the child most frequently or naturally would perform the skill. If the behavior is not performed adequately under such circumstances, more and more environmental supports can be introduced, and more training conducted. Let me provide two examples of such an assessment. The first involves shaping academic performance within a group setting, and the second involves training stair decent.

Many children who enter the training classroom are highly distractable. With these children, initial academic training occurs in an isolated section of the room where visual and auditory distractions are minimized and constant teacher support is available. Under these conditions, a child's on-task-performance can be shaped and maintained at a high rate. Because it is not reasonable to expect a child who works well under such restricted conditions to perform well in a less-restrictive environment, i.e. a crowded kindergarten table, on-task behavior is probed under a variety of conditions. The environmental components possibly controlling the child's on-task behavior in the restricted setting may include:

-the high rate of teacher attention,

-the furniture and room arrangement,

-the size and composition of the work group, or

-the academic tasks.

A series of probes are conducted, beginning with conditions which resemble the child's future class placement. Thus, if the child is aimed toward kindergarten these probes would be arranged:

-first, in a large group at a table with teacher attention divided evenly among children,

-second, in a large group, at a table with teacher attention increased for the target child,

-third, in a smaller group at a table,

-fourth, alone at a desk within sight and sound of the table, and

-finally, alone at a desk within sound but not sight of the table.

Probing ends and training begins from the point at which the child demonstrates a high rate of on-task behavior.

Another example is provided by a stair walking program. Several children who attend our preschool do not descend stairs independently. They never alternate feet, hesitate on each step before proceding, and usually cling with both hands to the rail. Observations of area grade schools indicate that students are expected to move independently up and down steps, in line, at a reasonable pace. Therefore we often train stair descent.

The children are trained individually to alternate by placing red tape on their right shoes and yellow on their left shoes, and by placing alternating strips of red and yellow tape on the stairs. The children, who hold a hand rail and the trainer's hand, match their taped shoes to the taped steps, thus automatically producing a left-right alternation. The environmental components controlling alternation in training appear to be:

-the tape,

-the trainer's hand support,

-trainer instructions and praise, and

-lack of distractions (that is, other children).

These components are withdrawn in the first probe, conducted once the children are alternating successfully under training conditions. For the first probe, tape cues are eliminated, trainer support, instruction and praise are reduced, and distractions in the form of other children are added. This probe most resembles conditions typical of preschool and public school walks. Children who do not generalize successfully under these conditions are probed again with the successive addition of components. That is, taped cues are added, then trainer support, and finally, instruction and praise are increased.

Once all the assessments are completed the most appropriate training sequence for each child can be determined. Some children require more training than others before they are able to perform well in the most natural setting. That is, in a line with other children.

In summary, our experiences indicate that when a child can perform a skill across a variety of conditions in the training classroom, the child is more likely to perform the same skill in a different classroom. Knowledge of social and physical differences between the training classroom and a child's future classroom allows a teacher to plan systematically for the child's transition between classrooms. Probing a child's behavior across conditions which approximate those in the future classroom will determine the extent of training yet required. Such planning and evaluating, are critical components in a successful transition program.